

Figure 1:

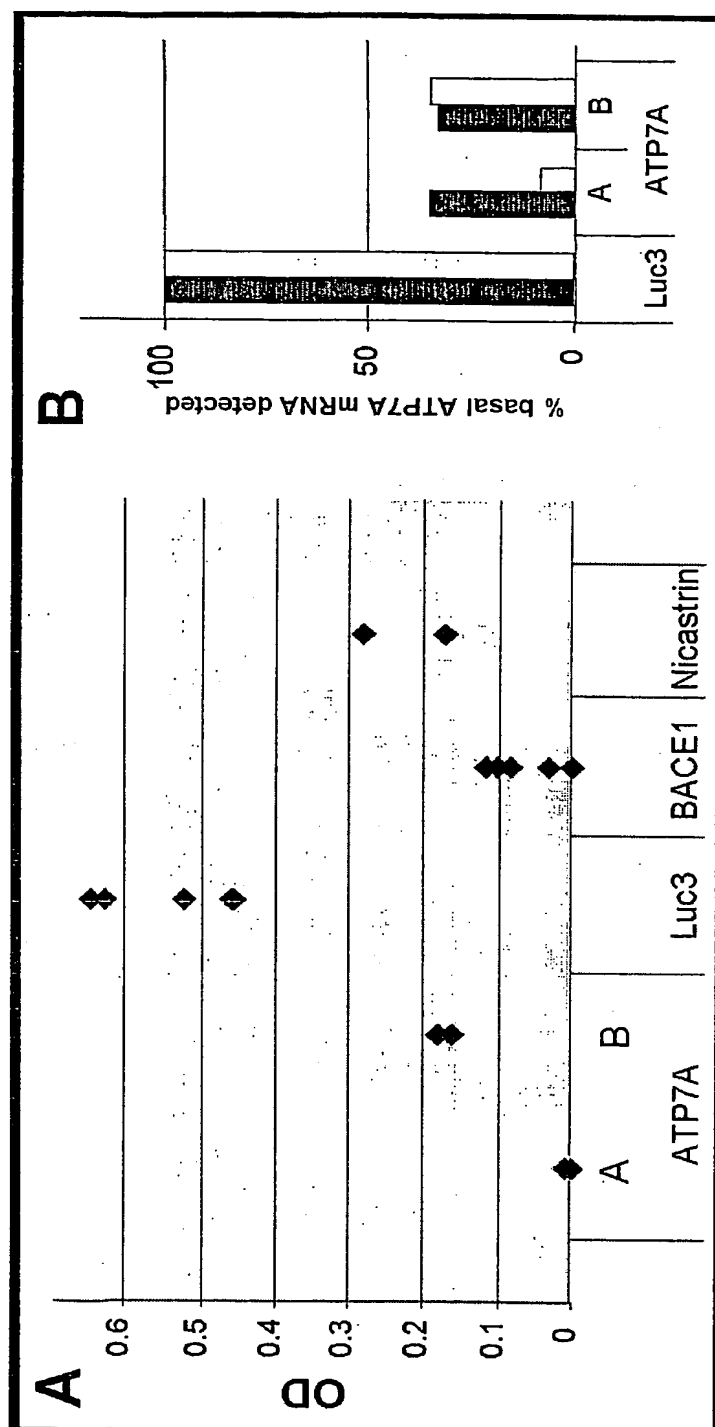


Figure 2:

MRKLSIRKRD	NNLLKPSSAS	SLGIAVSLGR	PVLSRSSSGT	VNLLKEEVGLH
IRDTAFSSTK	LLEAISTVSA	QVEELAVHNE	CYDPSMGVNS	VTISVEGMTC
NSCVWTIEQQ	IGKVNGVHHI	KVSLEEK NAT	IIYDPKLQTP	KTLOEAIDDM
GFDAVIHNP	PLPVLDTLTF	LTVTASLTLP	WDHIQSTLLK	TKGVTDIKIY
PQKRTVAVTI	IPSIVNANQI	KELVPELSLD	TGTLEKKSGA	CEDHSMAQAG
EVVLKMKVEG	MTCHSCTSTI	EGKIGKLQGV	QRIKVSLDNQ	EATIVYQPHL
ISVEEMKKQI	EAMGFPAFVK	KQPKYLLKGA	IDVERLKNTF	VKSSEGSQQR
SPSYTNDSTA	TFIIDGMHCK	SCVSNIESTL	SALQYVSSIV	VSLENRSAIV
KYNASSVTPE	SLRKAIEAVS	PGLYRVSITS	EVESTSNSPS	SSSLQKIPLN
VVSQPLTQET	VINIDGMTCN	SCVQSIEGVI	SKKPGVK SIR	VSLANSNGTV
EYDPLLTSPE	TLRGAIEDMG	FDATLSDTNE	PLVVIAQPSS	EMPLLTSTNE
FYTKGMTPVQ	DKEEGKNSSK	CYIQVTGMTC	ASCVANIERN	LRREEGIYSI
LVALMAGKAE	VRYNPAVIQF	PMIAEFIREL	GFGATVIENA	DEGDGVLELV
VRGMTASCVC	HKIESSLTKH	RGILYCSVAL	ATNKAHIKYD	PEIIGPRDII
HTIESLGFEA	SLVKKDRSAS	HLDHKREIRQ	WRRSFLVSLF	FCIPVMGLMT
YMMVMDHHFA	TLHHNQNSMK	EEMINLHSSM	FLERQILPGL	SVMNLLSFL
CVPVQFFGGW	YFYIQAYKAL	KHKTANMDVL	IVLATTIAFA	YSLIILLVAM
YERAKVNPIT	FFDTPPMLFV	FIALGRWLEH	IAKGKTSEAL	AKLISLQATE
ATIVTLDSDN	ILLSEEQVDV	ELVQRGDIK	VVPGGKFPVD	GRVIEGHSMV
DESLITGEAM	PVAKKPGSTV	IAGSINQNGS	LLICATHVGA	DTTLSQIVKL
VEEAQTSKAP	IQQFADKLSG	YFVPFIVFVS	IATLLVWIVI	GFLNFEIVET
YFPGYNRSIS	RTETIIRFAF	QASITVLCIA	CPCSLGLATP	TAVMVGTVGV
AQNGILIKGG	EPLEMAHKVK	VVVFDKTGTI	THGTPVVNQV	KVLTESNRIS
HHKILAIVGT	AESNSEHPLG	TAITKYCKQE	LDTETLGTCI	DFQVVPGCCG
SCKVTNIEGL	LHKNNWNIED	NNIKNASLVQ	IDASNEQSST	SSSMIIDAQI
SNALNAQQHK	VLIGNREWMI	RNGLVINNDV	NDFMTEHERK	GRTAVLVAVD
DELCGLIAIA	DTVKPEAELA	IHILKSMGLE	VVLMTGDNSK	TARSIASQVG
ITKVFAEVLP	SHKVAKVKQL	QEEGKRVAMV	GDGINDSPAL	AMANVGIAIG
TGTDVAIEAA	DVVLIRNDLL	DVVASIDLSR	KTVKRIRINF	VFALIYNLVG
IPIAAGVFMP	IGLVLPWMG	SAAMAASSVS	VVLSSLFLKL	YRKPTYESYE
LPARSQIGQK	SPSEISVHVG	IDDTSRNSPK	LGLLDRIVNY	SRASINSLLS
DKRSLNSVVT	SEPDKHSLLV	GDFREDDDTA	L	

Figure 3:

ATP7A MRKLSIRKRDNNLLKPSSASSLGIASVSLGRPVLSRSSSGTVNLLVEVLHIRDFAFSSTKLEAISTVSAQVEELAVHNE
 ATP7B -----MPEQERQITAREGAS-----RKILSKLSLPTLR-----AWEPAMKKSFADNVGYEGG-----LD
 Consensus/80%b.cp.pplh..ptAS.....R.ILS+.s.sT.....hb-sAbpp+bhb-slth.tt.....-

ATP7A CYDPSMGVNSVTISVEGNTCNSCVNTIEQQIKGVNVHHIKVSLSEKNAIYDEKLQTPKTLQEAIDDMGFDAVINHPD
 ATP7B GLGSSQVATSTVRILGMTQSCVKSIEDRIISNLKGIISMKVSLQDSATVKVSVVCLQQVCHQIGDMGFASIA
 Consensus/80% sbsFS..Vs*stipbGHTCpSCVB*IEppitpplGlbpbKVSLEPcsATlbYsPpl.s.pplpc.IsDMGF-AsIh...

ATP7A PLPLVLTDTLFTVTASLTLPWDHIQSTLLKTKGVTDIKIYPQKRTVAVTII PSIVNANQIKELVPELSLDTGTLEKSSGA
 ATP7B -----EKKAAAS-----
 Consensus/80%E.Kttt

ATP7A CEDHSMAQAGEVVLKMKVEGTCHSCTSTIEGKIGLQGVORIKVSLDNOEATIVYQHLSISVEEMKKQIEAMGFAPFVK
 ATP7B WPSRSLP-AQEAUVKLVEGTMTCQSCVSSIEGKVRILQGVVRVKSLSNQEAVITYQYLYIQPEDLRDHDVNDMGFEAAIK
 Consensus/80% h.s+Sbs.A.EsVlKb+VEGTMTCpSCss*IEGKl.KLQGV.R.KVSLsNQEAsIsYQPaLIpsE-b+cpIpsMGF.AhIK

ATP7A KQPKYKLGALDVERLKN-----F.VKSSEGSQORSPSYTND-----TATFIIDGMHCKSCVSNIESTLSAQYVSSIVVS
 ATP7B SKVAPLSLGPDIERLQSTNPKRELSSANQNFNNSETLGHQSHVVQLQLRIDGMHCKSCVNLNIEENIGOLLGVQSTQVS
 Consensus/80% pps..LpLGSIDIERLpsT....PipStp.sbpsp.*bsppt....ThpbIDGMHCKSCV.NIEpslt.LbhVpSI.VS

ATP7A LENRSALVKKNASSVTESLRKALEAVSGLYRVSITSEVES-----TSNPSSSSSLOKIELNVVSQPLTQETVINIDGMTCN
 ATP7B LENKTAQVKYDPSCTSVALQRAIEALPGNFVKVSLPDGAEGSGTDHRSSSSSHPGSPRNQVQGTCTSTLILALGMTCa
 Consensus/80% LEN+AbVKYssSss*P.tlp+AlEalsPG.a+VSIs.sEt..TspssSSSp...P.ps.sQshspptIIsIGMTCs

ATP7A SCVQSTIEGVISKKPGVKSIRVSLANSNGTVEYD.LLTSFETLRGATEDMGFDATLSDTNEPLVIAQPSSEMPLLTSTN-
 ATP7B SCVHSIEGMSIQLEGVQGISVSLAECTATVLYN.SVISFELRAAIEDMGFEASVSESCSTNPLGNHAGNSMVQITDG
 Consensus/80% SCVpSIEGhISpb.GVppIpVSLAptstTVbYsP.lhSPePlRtAIEDMGF-A*IsspsphssltP.St..sbIp*Ts.

ATP7A -EFYTKGMTVQDKEEGKNS-----SKCYIQVTGTCASCVANIERNLRRREGIYSILVALMAGKAEVR
 ATP7B TPTSVQEVAFHTGRLPANHAPDILAKSPQSTRAVAPQKCFLOIKMTASCASCVNIERNLQKAGVLSVLVALMAGKAEIK
 Consensus/80% ..h.sp.hsPhps+b.tppt.....PKCalQIPGTCASCVCNTERNLp+E.GlbSILVALMAGKAEI+

ATP7A YNNAVIO.PMTAEFIRELGEATVIEADEGDLVLELVVRGTMTCASCVHKESSLTKHRTGLYCSVALATNKAHIKYD.E
 ATP7B YD.EVIOQLEIAQFIQDLGEAAVMEDYAGSDGNIETITGTCASCVENIESKLTRNGITTYASVALATSKALVKFD.E
 Consensus/80% YSP.VIQP.bIApFip-LGF.AsVbEshs.tbGslELsIpGMTASCVHpIESpLT+ppGIhYSVALATSKAbIKaDPE

ATP7A IIG.RDIIHTTESLGFASLVKDKRSASHLDHKREITROWRSFLVSLFFCI.VMGLMTYMMVMDHFAATHHNQMSKEE
 ATP7B IIG.RDILKITEEIGFHASLAQRNPNAHLDHKEIKQWICKSLCSLVECI.VMAIMYMLIPSN-----
 Consensus/80% IIGPRDII+IEpLGFpCASLsp+s.sApHLDHKBEI+QW++SFLsSLHfsIPVMtLmYmbI.sp.....

ATP7A MINLHSSMFLERQILGLSVNLLSFLICVPPVQFFGGWYFYIQAYKALKHKTANMDVLIVLATIAFAYSILILVAMYB
 ATP7B --EPHOSMVLNDHNIIGLSILNLIFELCTFVQLLGGWTFVQAYKSLRHSANMDVLIVLATIAFAYSILILVAVAE
 Consensus/80% ..p.HpSMhL+pilPGLSbNLl.FILCs.VqbBGGWYFYIQAYKtLH+ANMDVLIVLATIAAsYSLILILVAhHe

ATP7A RAKVNITTFDITMLEVFIALGRWLEHIAKKTSEALAKLSLOATEATIVTLDSPNILLSEEQVDVELVORGDIKVV
 ATP7B KAKRSVTFDITMLEVFIALGRWLEHIAKKTSEALAKLSLOATEATIVTLDSPNILLSEEQVPMELVORGDIKVV
 Consensus/80% +Ac.sPlTTFDITPMLFVFIALGRWLEHIAKKTSEALAKLSLOATEATIVTLDSPNILLSEEQVshELVORGDIKVV

ATP7A PGCKFVDGRVIEGHSVDESILITGEAMVAIGGSTVLAGSINONGSLICATHVGADTTLSQIVKLVEEAQTSKATIQ
 ATP7B PGCKFVDGRVIEGHSVDESILITGEAMVAIGGSTVLAGSINONGSLICATHVGADTTLSQIVKLVEEAQTSKATIQ
 Consensus/80% PGCKFPVDG+VIEGp*MsDESILITGEAMPVsKKPGSTVIA.SIN.pGSLIPATHVGSDDTLTQIVKLVEEAQTSKAPIQ

ATP7A QPADKLSGYFVFIVFVSIAITLLVWVIGFLNIEVEYF.GYNRSISRTETIIRFAFQASITVLCIAC.CSLGLATTA
 ATP7B QLADRSQGYFV.FIIMSTLTLVWVIGFLNIEVEYF.NPNKHISQTEVIRFAFQTSITVLCIAC.CSLGLATTA
 Consensus/80% QBAD+BSGYFVFilbshhTLVWVIGFlsF.lVppYFps.N+pISpTesiIRFAFQTSITVLCIACPSGLATPTA

ATP7A VMVGTGVGAONGILIKGG*LEMAHKVKVVFDDKTGTITHTGVVNQVKVLTESNRISHHKILAVGTAESENSE.LGTA
 ATP7B VMVGTGVGAONGILIKGG*LEMAHKIKVVMEDKTGTITHTGVVMRVLLGDVATPLRKVLAVGTAEASSEH.LGVA
 Consensus/80% VMVGTGVTAONGILIKGGcPLEMAHKIKsvhFDKTGTITHTGsP.V.pvbls-sspsb+KILAVGTAEtSSEHPLGSA

ATP7A ITIKYCKOELDTETLGTCTDFQVVGCGIGCKVNTIEGLHKNWNIEDNNIKNASLVQIDASNEQSSSTSSMIIDQISN
 ATP7B VTIYCKEELGTETLGYCTDFQAV.GCGIGCKVSNVEGILAH-----ERPLSAPASHNEAGSLPAEKDAPV--
 Consensus/80% lTKYCKpELsTETLGHChDFQsVPGCGITCKV*NIEGILh+s.....p.lphsASpbpptsS.shbbDA....

ATP7A ALNAQQRKVLIGNREWMIRNGLVINNDVNDMTEHERKGRTAIVLAVDDELCLGLIAIADTVKPEAEATHILKSMGLEVV
 ATP7B ----QTFSVLIGNREWLRRNGLTISSDVSAMTDHEMGQTALIVADGVLCMIADAVKQEAALAVHTLOSMGVDDVV
 Consensus/80%QpapVLIGNREWBbRNLsIssDVsDhMT-HebKGPtALLVADs.LCGBIAIADSVK.EA.LAIhHLPsMGL-VV

ATP7A IATGDNSTKARSIAQVGITKVFAEVL-SHKVAKVKQLQEGKRVAMVGDGINDSALAMANVGIAITGTGDVAIEAADV
 ATP7B LITGDNKRTARAIATQVINKVFAEVL-SHKVAKVQELQNKGHKVMVGDGINDSALAQADMGAIGTGTGDVAIEAADV
 Consensus/80% LbTGDNPktARTIA*QVGIsKVFAEVLPSHKVAKVppLQpCGK+VAMVGDGINDSPALAdashGLAIGTGTGDVAIEAADV

ATP7A VLIRNDLLDVVASIDLSRKTVRIRIRINVFALIYNLVGI*IAAGVFM.TGLVLO.WMGSAAMAASSSVVLSLFLKLYR
 ATP7B VLIRNDLLDVVASIHLKRTVRRIRINVLALIYNLVGI*IAAGVFM.TGIVLO.WMGSAAMAASSSVVLSLQKCYK
 Consensus/80% VLIRNDLLDVVASICLS+TV+RIRINbVbALIYNLVGIPIAAGVFMPIGIVLQPMGSAAMAASSSVVLSLbLkhy+

ATP7A KTYESYELPARSQIGQKSPSEISVHVIGIDTSRNS*KLGLLDRIVNYSRASINSLSDKRSLSNVSTSEP-DEHSLLVG
 ATP7B K*DLERYEAQAHGHMKPLTASQVSVHIGIDDRWDS*RAPWDQVSVYQVLSLSTSDKPSRSHAAADDGDKWLSLLN
 Consensus/80% KPsBepYeh.A+tpb..b*sSp1SVH1GbDDP.RsSP+hs.bDpls.hSpSIsSLhSDK.SbpSssss-s.DKaSLIs

ATP7A DFRÉDDDTAL
 ATP7B GRDEEQYI--
 Consensus/80% sbcE-p.h..